REMARKS

Claims 1-7 are now pending in the application. The amendments to the claims contained herein are of equivalent scope as originally filed and, thus, are not a narrowing amendment. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 112

Claims 5 and 6 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention. This rejection is respectfully traversed.

Referring to Claims 5 and 6, Applicants have amended Claims 5 and 6 to include a computer readable memory medium that is "further stored with a program for executing in a computer" in order to provide proper antecedent basis. Applicants believe the rejection of Claims 5 and 6 under 35 U.S.C. § 112, second paragraph, is now moot.

REJECTION UNDER 35 U.S.C. § 102

Claims 1-7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Certain et al. ("Automatic Body Measurement for Mass Customization of Garments", IEEE, October 1999). This rejection is respectfully traversed.

Referring to Claim 1, Certain et al. do not show, teach, or suggest an extracted origin data memory module that stores computer aided design (CAD) data and non-contact measuring point data previously aligned with the CAD data. Certain et al. also

do not show, teach, or suggest an analytic surface extracting module that extracts an analytic surface having a predetermined configuration from the CAD data.

Certain et al. teach an automatic body measurement system for mass customization of garments. The automatic body measurement system includes a lower body scanner that collects raw data on body shape and software that extracts tailor measurements from the data (pg. 1, col. 2). The lower body scanner includes two scan heads that are positioned in front of and behind a lower body. The scan heads capture 3-dimensional (3D) points on the body surface and silhouette information (pg. 2, col. 1). A control module models the lower body based on the 3D points using two stacks of ellipses that are adjusted to correspond with the silhouette information. The control module then obtains the tailor measurements from the completed lower body model (pg. 2, col. 1).

The control module taught by Certain et al. does not store CAD data, and the 3D points are not previously aligned with CAD data before the control module models the lower body, as required by the claims. The control module stores only 3D points and silhouette information obtained during the scanning procedure. Previously developed CAD data is not utilized during the scanning procedure. For example, a lower body is not first designed in a CAD program and then compared to a physical embodiment of the lower body that is scanned to ensure that the lower bodies from the CAD program and the physical embodiment are equivalent, as taught by Applicants.

The control module taught by Certain et al. also does not extract an analytic surface of the lower body that is previously configured with CAD data, as required by the claims. The control module models the lower body based only on the 3D points and

silhouette information. Certain et al. discuss a computer simulator that simulates the automatic body measurement system (pg. 2, col. 1). The computer simulator allows a user to adjust parameters relating to the automatic body measurement system and to examine the resulting performance. A simulated scanner scans simulated body models and outputs 3D point and silhouette information (pg. 2, col. 1). The simulator then determines simulated tailor measurements based on the simulated 3D points and silhouette information. However, the simulated 3D points and silhouette information are not non-contact measuring point data as taught by Applicants. The simulated 3D points and silhouette information are obtained based on a simulated body model. Therefore, Certain et al. do not extract an analytic surface from 3D points and silhouette information that are previously aligned with the simulated body model.

On page 2 of the Application, Applicants teach that it is very difficult to extract flat surfaces and/or corner outlines having acute angles using conventional non-contact measurement systems. Therefore, Applicants teach a system for verifying an equivalency between an object designed in a CAD program and an object physically created based on the object designed in the CAD program. A 3D scanner obtains point group data based on the physical embodiment of the object. The point group data is aligned with CAD data representing the object. An outline extracting program then generates an outline of the object based on the aligned point group data and CAD data. Therefore, unlike the invention taught by Certain et al., the CAD data and the point group data are separately obtained. The outline is subsequently generated based on analytic surfaces that have predetermined configurations from the CAD data. This

results in an extracted external appearance of an object formed by smooth surfaces and an outline less influenced by the dispersion of non-contact point group data.

Claim 2 depends directly from Claim 1 and is allowable over Certain et al. for the same reasons.

Referring to Claim 3, Certain et al. do not show, teach, or suggest inputting CAD data and non-contact measuring point data previously aligned with the CAD data. Certain et al. also do not show, teach, or suggest extracting an analytic surface having a predetermined configuration from the CAD data.

The arguments made above with respect to Claim 1 are equally applicable to Claim 3. The control module taught by Certain et al. does not store CAD data, and the 3D points are not previously aligned with CAD data before the control module models the lower body. The control module stores only 3D points and silhouette information obtained during the scanning procedure. Previously developed CAD data is not utilized during the scanning procedure. The control module taught by Certain et al. also does not extract an analytic surface of the lower body that is previously configured with CAD data.

Claim 4 depends directly from Claim 3 and is allowable over Certain et al. for the reasons cited above.

Referring to Claim 5, Certain et al. do not show, teach, or suggest a computer readable memory medium that stores a program for extracting an outline of an object using CAD data and non-contact measuring point data. Certain et al. also do not show, teach, or suggest a computer readable memory medium that stores a program for

executing in a computer an analytic surface extracting module that extracts an analytic surface having a predetermined configuration from the CAD data.

The arguments made above with respect to Claim 1 are equally applicable to Claim 5. The control module taught by Certain et al. does not store CAD data, and the 3D points are not previously aligned with CAD data before the control module models the lower body. Previously developed CAD data is not utilized during a scanning procedure. The control module taught by Certain et al. does not extract an analytic surface of the lower body that is previously configured with CAD data.

Referring to Claim 6, Certain et al. do not show, teach, or suggest a computer readable memory medium that stores a program for extracting an outline of an object using CAD data and non-contact measuring point data. Certain et al. also do not show, teach, or suggest a computer readable memory medium that stores a program for executing in a computer an analytic surface extracting module that extracts an analytic surface having a predetermined configuration from the CAD data.

The arguments made above with respect to Claim 1 are equally applicable to Claim 6. The control module taught by Certain et al. does not store CAD data. The 3D points are not previously aligned with CAD data before the control module models the lower body. Previously developed CAD data is not utilized during a scanning procedure. The control module taught by Certain et al. does not extract an analytic surface of the lower body that is previously configured with CAD data.

Referring to Claim 7, Certain et al. do not show, teach, or suggest extracting an analytic surface having a predetermined configuration from CAD data.

The arguments made above with respect to Claim 1 are equally applicable to Claim 7. The control module taught by Certain et al. does not store CAD data. The 3D points are not previously aligned with CAD data before the control module models the lower body. Previously developed CAD data is not utilized during a scanning procedure.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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